REMARKS

I.   Introduction

Claims 17 to 33 and 35 to 37 are pending in the present application. In view of the foregoing amendments and the following remarks, it is respectfully submitted that the present application is in condition for immediate allowance, and reconsideration is respectfully requested.

II.   Double Patenting

Regarding the provisional double patenting rejection, while this provisional rejection is not agreed with, to facilitate matters, Applicants are prepared to file a Terminal Disclaimer upon withdrawal of all other rejections and an indication that the present application is otherwise in condition for immediate allowance.

III.   Traverse of Statements of Official Notice

With respect to the Examiner's assertion on page 5 of the Final Office Action that official notice allegedly set forth in the Office Action dated April 26, 2010 has not been traversed, Applicants respectfully submit that the Office Action dated April 26, 2010 contained no statements of official notice. Thus, the contention that Applicants failed to traverse any statements of official notice is incorrect, since there were no statements of official notice to traverse.

With respect to the statements of Official Notice in the present Final Office Action, Applicants *traverse* these statements of Official Notice and allegations of well-known fact, and Applicants respectfully requests published information and/or an affidavit under 37 C.F.R. § 1.104(d)(2) to the extent that the statement of Official Notice and/or allegations of well-known fact may be maintained. It is respectfully submitted that the Official Notice and allegations of well-known fact are improper since the facts asserted to be well-known are not capable of instant and unquestionable demonstration as being well-known. In re Ahlert, 424 F.2d 1088, 1091, 165 U.S.P.Q. 418, 420 (C.C.P.A. 1970) (the notice of facts beyond the record which may be taken by an Examiner must be "capable of such instant and unquestionable demonstration as to defy dispute."). It is further noted that the alleged statements of Official Notice set forth in the Final Office Action are set forth in the present tense. Thus, whether, for example, "it *is* known in the art to optimize one sensor based on information from another sensor in order to increase accuracy"

is entirely irrelevant to the question of patentability of the present claims, a question that is answered with respect to a time at least as early as the filing date of the application.

IV.   Objection to the Drawings

Regarding the objection to the drawings, while 37 C.F.R. § 1.83(a) requires the drawings to show every feature specified in the claims, 37 C.F.R. § 1.83(a) **_also provides_** that "conventional features disclosed in the description and claims, where their detailed illustration is not essential for a proper understanding of the invention, **_should be_**" -- but are **_not required to be_** -- "illustrated in the drawing in the form of a graphical drawing symbol or a labeled representation." The feature of a circuit that activates a predefines search routine need not be illustrated since a detailed illustration thereof is not essential for a proper understanding of the claimed subject matter. The Examiner's attention is also respectfully directed to 35 U.S.C. § 113, which states that "[t]he applicant shall furnish a drawing **_where necessary for the understanding of the subject matter sought to be patented_**" (emphasis added). Since a person of ordinary skill in the art would properly understand the feature of a circuit that activates a predefines search routine based on the description and the claims, no further illustration is required.

V.   Rejection of Claims 17 to 25, 35 and
36 Under 35 U.S.C. § 112, 1st Paragraph

Claims 17 to 25, 35 and 36 were rejected under 35 U.S.C. § 112, first paragraph, as allegedly failing to comply with the enablement requirement. It is respectfully submitted that the present rejection should be withdrawn for at least the following reasons.

The Office Action's conclusory assertions at pages 2, 3 and 7 do not constitute a proper enablement analysis. It is respectfully submitted that the Office Action's assertions and arguments presented do not reflect the standard for determining whether a patent application complies with the enablement requirement that the specification describe how to make and use the invention -- which is defined by the claims. (See M.P.E.P. § 2164). The Supreme Court established the appropriate standard as whether any experimentation for practicing the invention was undue or unreasonable. (See M.P.E.P. § 2164.01 (citing Mineral Separation v. Hyde, 242 U.S. 261, 270 (1916); In re Wands, 858 F.2d. 731, 737, 8 U.S.P.Q.2d

1400, 1404 (Fed Cir. 1988))). Thus, it is axiomatic that the enablement test is "whether one reasonably skilled in the art could make or use the invention from the disclosures in the patent coupled with information known in the art without undue experimentation." (See id. (citing United States v. Teletronics, Inc., 857 F.2d 778, 785, 8 U.S.P.Q.2d 1217, 1223 (Fed. Cir. 1988))).

The Federal Circuit has made clear that there are many factors to be considered in determining whether a specification satisfies the enablement requirement, and that these factors include but are not limited to the following: the breadth of the claims; the nature of the invention; the state of the prior art; the level of ordinary skill; the level of predictability in the art; the amount of direction provided by the inventor; the existence of working examples; and the quantity of experimentation needed to make or use the invention based on the disclosure. (See id. (citing In re Wands, 858 F.2d at 737, 8 U.S.P.Q.2d at 1404 and 1407)). In this regard, the Federal Circuit has also stated that it is "improper to conclude that a disclosure is not enabling based on an analysis of only one of the above factors," and that the examiner's analysis must therefore "consider all the evidence related to each of these factors" so that any nonenablement conclusion "must be based on the evidence as a whole." (See M.P.E.P. § 2164.01).

Also, an examiner bears the initial burden of establishing why the "scope of protection provided by a claim is not adequately enabled by the disclosure." (See id. (citing In re Wright, 999 F.2d 1557, 1562, 27 U.S.P.Q.2d 1510, 1513 (Fed. Cir. 1993))). Accordingly, a specification that teaches the manner and process of making and using an invention in terms that correspond in scope to those used in describing and defining the claimed subject matter complies with the enablement requirement. (See id.).

In contrast to the above, however, it is respectfully submitted that the Office Action's unsupported assertions simply do not concern — as they must under the law — whether the present application enables a person having ordinary skill in the art to practice the claimed subject matter of the claims without undue experimentation — which it plainly does, as would be understood by a person having ordinary skill in the art in view of the disclosure of the present application, including the specification. In short, the Office Action's assertions are merely conclusory and do not address the issue of whether one having ordinary skill would have to unduly experiment to practice the claimed subject matter of the rejected claims — *a*

proposition for which the Office bears the burden of proving a prima facie case as to the rejected claims.

In this regard, to properly establish enablement or non-enablement, the Office must make use of proper evidence, sound scientific reasoning and the established law. In the case of <u>Ex Parte Reese</u>, 40 U.S.P.Q.2d 1221 (Bd. Pat. App. & Int. 1996), a patent examiner rejected (under the first paragraph of section 112) application claims because they were based on an assertedly non-enabling disclosure, and was promptly reversed because the rejection was based only on the examiner's subjective belief that the specification was not enabling as to the claims. In particular, the examiner's subjective belief was simply not supported by any "evidence or sound scientific reasoning" and therefore ignored recent case law — which makes plain that an examiner (and not an applicants) bears the burden of persuasion on an enablement rejection.

More particularly, the examiner in <u>Ex parte Reese</u> was reversed because the rejection had only been based on a conclusory statement that the specification did not contain a sufficiently explicit disclosure to enable a person to practice the claimed invention without exercising undue experimentation — which the Board found to be merely a conclusory statement that only reflected the subjective and unsupported beliefs of a particular examiner and that was not supported by any proper evidence, facts or scientific reasoning. (<u>See</u> <u>id.</u>). *Moreover, the Board made clear that it is "incumbent upon the Patent Office . . . to back up assertions of its own with acceptable evidence," and also made clear that "[where an] examiner's 'Response to Argument' is not supported by evidence, facts or sound scientific reasoning, [then an] examiner has not established a prima facie case of lack of enablement under 35 U.S.C. § 112, first paragraph."* (<u>See</u> <u>id.</u> at 1222 & 1223).

In the present case, the Final Office Action has not established – even in a conclusory manner -- that undue experimentation would be required.

Nevertheless, claim 17 has been amended to recite that the at least one *photometric* sensor is optimized on the basis of information obtained from the at least one *further* sensor. The optimization is adequately disclosed, for example, on page 6, lines 13 to 26; page 8, line 22 to page 9, line 6; page 13, lines 5 to 21; and page 22, line 25 to page 23, line 3 of the Specification. For example, optimization occurs when specific search programs are "allocated to individual sensors that have

specific advantages for the detection of such an object. When a specific programmed scenario is detected in the context of a measurement by one or more sensors, i.e. when one or more sensors give indications of, for example, a specific material, then all the sensors are set to that program, and the sensor driving and evaluation are optimized for the material that has now been recognized. More accurate results can thereby be supplied because it is possible to work, for example, with sensitivities for the individual sensors that are matched optimally to the identified object." (*see,* specification, page 8, line 22 through page 9, line 6).

Furthermore, claim 36 has been amended to cancel herein without prejudice the feature of determining the desirability of the signals for subsequent data processing and to recite the step of *process[ing] only signals having an unequivocal signal.* This feature is adequately disclosed on page 8, lines 1 to 21; and page 13, lines 22 to 28 of the Specification.

It is also noted that the Examiner's assertions that "it has not been adequately disclosed how one sensor is optimized on the basis of information obtained from the other sensors" is inconsistent with the Examiner's statement that "it is known in the art to optimize one sensor based on information from another sensor in order to increase accuracy."

In view of the foregoing, it is respectfully submitted that claims 17 to 25, 35 and 36 are sufficiently enabled. Accordingly, withdrawal of this rejection is respectfully requested.

VI.   Rejection of Claim 36 Under 35 U.S.C. § 112, 1st Paragraph

Claim 36 were rejected under 35 U.S.C. § 112, first paragraph, as allegedly failing to comply with the written description requirement. It is respectfully submitted that these claims sufficiently comply with the written description requirement for at least the following reasons.

As stated above, claim 36 has been amended to recite the step of *process[ing] only signals having an unequivocal signal* and to cancel herein without prejudice the feature of feature of determining the desirability of the signals for subsequent data processing.

In view of the foregoing, it is respectfully submitted that claim 36 sufficiently complies with the written description requirement for at least the above reason. Accordingly, withdrawal of this rejection is respectfully requested

VII. Rejection of Claims 17 to 25, 35, and 36 Under 35 U.S.C. § 112, 2nd Paragraph

Claims 17 to 25, 35, and 36 were rejected under 35 U.S.C. § 112, second paragraph, as indefinite. It is respectfully submitted that these claims are sufficiently definite for at least the following reasons.

Regarding claim 17 and its dependent claims 18 to 25 and 35, and claim 36, claim 17 has been amended to clarify that the at least one *photometric* sensor is optimized on the basis of information obtained from the at least one *further sensor*. Accordingly, it is respectfully submitted that the present rejection as to claims 17 to 25, 35, and 36, is moot, and withdrawal of this rejection is respectfully requested.

Accordingly, it is respectfully submitted that claims 17 to 25, 35, and 36 are sufficiently definite for at least the above reasons.

In view of all of the foregoing, withdrawal of this rejection is respectfully requested.

VIII. Rejection of Claims 17 to 19 and 35 Under 35 U.S.C. § 102(b)

Claims 17 to 19 and 35 were rejected under 35 U.S.C. § 102(b) as anticipated by U.S. Patent No. 5,952,957 ("Szu"). It is respectfully submitted that the Szu does not anticipate these claims for at least the following reasons.

Claim 17 has been amended to recite the at least one photometric sensor is optimized on the basis of information obtained from the at least one further sensor, wherein the information on which the optimization is based includes an identification of a material of the at least one object. Support for the amendment may be found, for example, on page 8, lines 22 to 35 of the Specification.

Szu does not disclose, or even suggest, these features. Szu describes a system for generating and displaying an image of a target object including an infrared unit (103), a radar unit (102), a processor (101), and a display device (104).

The Examiner cites col. 2, lines 43 to 50 of Szu as allegedly disclosing the feature of at least one sensor being optimized on the basis of information obtained from the other sensors. In this regard, col. 2, lines 43 to 50 of Szu states:

> The infrared unit comprises a focal plane array comprising pixels, each of the pixels includes a sensing area and a non-sensing area surrounding the sensing area, wherein the processor extrapolates the infrared signal from the sensing

area toward the non-sensing area based on the radar signal.
The processor adjusts the boundary between the infrared
signal and the radar signal to provide a smooth transition
between the sensing area and the non-sensing area.

Nowhere, in the aforementioned text, does it disclose or suggest, at least one photometric sensor is optimized on the basis of information obtained from the at least one further sensor, *wherein the information on which the optimization is based includes an identification of a material of the at least one object.* As such, it is respectfully submitted that Szu does not disclose, or even suggest, all of the features included in claim 17.

Consequently, it is respectfully submitted that Szu does not anticipate claim 17, or claims 18, 19, and 35, which depend from claim 17.

In view of all of the foregoing, withdrawal of this rejection is respectfully requested.

IX.   Rejection of Claims 17 to 19, 21, 24, 25, and 35 Under 35 U.S.C. § 102(e)

Claims 17 to 19, 21, 24, 25, and 35 were rejected under 35 U.S.C. § 102(e), as anticipated by U.S. Patent Application Publication No. 2003/0193429 ("Campana et al."). It is respectfully submitted that Campana et al. does not anticipate the present claims for at least the following reasons.

Campana et al. does not disclose, or even suggest, that the at least one photometric sensor is optimized on the basis of information obtained from the at least one further sensor, *wherein the information on which the optimization is based includes an identification of a material of the at least one object.* Campana et al. describes a sensor array (30) containing a row of GPR sensors (70), EMI coils (80), and a row of DLIR detectors (140), whereby the sensors are connected to the processor based system (130) and are configured to look down at the ground (60) in order to detect buried objects.

The Examiner cites paragraphs [0042] and [0043] of Campana et al. as allegedly disclosing the feature of at least one sensor being optimized on the basis of information obtained from the other sensors. However, Campana et al. merely refers to **_combining_** IR feature extractions with GPR and MD features in a multisensor fusion block (1080). It does not disclose or suggest that at least one photometric sensor is optimized on the basis of information obtained from the at least one further sensor, wherein the information on which the optimization is based includes an

identification of a material of the at least one object. As such, it is respectfully submitted that Campana et al. does not disclose, or even suggest, all of the features included in claim 17.

Consequently, it is respectfully submitted that Campana et al. does not anticipate claim 17, or claims 18, 19, 21, 24, 25, and 35, which depend from claim 17.

In view of all of the foregoing, withdrawal of this rejection is respectfully requested.

X   Rejection of Claim 20 Under 35 U.S.C. § 102(e)

Claim 20 was rejected under 35 U.S.C. § 102(e) as anticpated by Campana et al. with alleged illustration of inherency provided by Radar Sensor for an Autonomous Antarctic Explorer, *Proc. SPIE , Mobile Robots XIII and Intelligent Transportation Systems,* volume 3525, pp. 117-124, January 1999 ("Foessel et al."). It is respectfully submitted that Campana et al. with alleged illustration of inherency provided by Foessel et al. does not anticipate claim 20 for at least the following reasons.

Claim 20 depends from claim 17 and therefore includes all of the features included in claim 17. As more fully set forth above, Campana et al. does not disclose, or even suggest, all of the features included in claim 17. Foessel et al. is not relied upon for disclosing or suggesting the features of claim 17 not disclosed or suggested by Campana et al. Indeed, it is respectfully submitted that Foessel et al. does not disclose, or even suggest, the features included in claim 17 not disclosed or suggested by Campana et al. As such, it is respectfully submitted that Campana et al. with illustration of inherency provided by Foessel et al. does not anticipate claim 20, which depends from claim 17.

In view of all of the foregoing, withdrawal of this rejection is respectfully requested.

XI.   Rejection of Claims 17, 18, 21 to 25, 35 and 36 Under 35 U.S.C. § 102(e)/103(a)

Claims 17, 18, 21 to 25, 35 and 36 were rejected under 35 U.S.C. § 102(e), as anticipated by, or in the alternative, under 35 U.S.C. § 103(a) as obvious over U.S. Patent No. 7,034,677 ("Steinthal et al."). It is respectfully submitted that Steinthal et al. does not anticipate or render unpatentable the present claims for at least the following reasons.

Steinthal et al. does not disclose, or even suggest, that at least one photometric sensor is optimized on the basis of information obtained from the at least one further sensor, *wherein the information on which the optimization is based includes an identification of a material of the at least one object*. Steinthal et al. describes sensor array detectors capable of producing a response in the presence of physical stimuli.

The Examiner cites col. 9, lines 50 to 55; and col. 10, lines 19 to 24 and 40 to 45 of Steinthal et al. as allegedly disclosing the feature of at least one sensor being optimized on the basis of information obtained from the other sensors. In this regard, col. 9, lines 50 to 55 of Steinthal et al. states:

> In certain aspects, the system is configured to periodically monitor all physical channels and determine if the sensor inputs are within the electrical operating range. If not, the system automatically biases each sensor accordingly and adjusts its baseline readings.

Nowhere, in the aforementioned text, does it disclose or suggest, that the at least one photometric sensor is optimized on the basis of information obtained from the at least one further sensor, *wherein the information on which the optimization is based includes an identification of a material of the at least one object*. Steinthal et al. merely refers to ***updating the baseline resistance*** based on recent history.

Further, col. 10, lines 19 to 24 of Steinthal et al. states:

> The baseline resistance of all sensors is calculated 315. To account for slow changes in ambient conditions, such as humidity and temperature, and any sensor drift, the baseline resistance, R_0, is constantly updated based on recent history. There are at least two parameters—delay time and averaging time—that can be tuned.

Nowhere, in the aforementioned text, does it disclose or suggest, that the at least one photometric sensor is optimized on the basis of information obtained from the at least one further sensor, *wherein the information on which the optimization is based includes an identification of a material of the at least one object*.

Furthermore, col. 10, lines 40 to 45 of Steinthal et al. states:

> The responses for individual sensors are used for pattern recognition to identify an event, e.g., determine whether a disturbance is a nuisance or a fire.
> The sensor-averaged response is calculated 330. In one aspect, the sensor-averaged response, $(\Delta R/R_0)_{avg}$, is

> calculated to provide a robust measurement of the presence
> or non-presence of a disturbance.

Nowhere, in the aforementioned text, does it disclose or suggest, that the at least one photometric sensor is optimized on the basis of information obtained from the at least one further sensor, *wherein the information on which the optimization is based includes an identification of a material of the at least one object.* Steinthal et al. merely refers to calculating a ***sensor-averaged response*** to provide a measurement of the presence of a disturbance. That is different than the at least one photometric sensor is optimized on the basis of information obtained from the at least one further sensor, *wherein the information on which the optimization is based includes an identification of a material of the at least one object.*

As such, it is respectfully submitted that Steinthal et al. does not disclose, or even suggest, all of the features included in claim 17. Consequently, it is respectfully submitted that Steinthal et al. does not anticipate, or render unpatentable, claims 18, 21 to 25, 35 and 36, which depend from claim 17.

In view of all of the foregoing, withdrawal of this rejection is respectfully requested.

XII.   Rejection of Claim 36 Under 35 U.S.C. § 102(b)/103(a)

Claim 36 was rejected under 35 U.S.C. § 102(b), as anticipated by, or in the alternative, under 35 U.S.C. § 103(a) as obvious over Szu. It is respectfully submitted that Szu does not anticipate or render unpatentable the present claim for at least the following reasons.

Claim 36, which depends from claim 17, has been amended to recite the step of evaluat[ing] at least one further measurement signal to obtain information about the object enclosed in the medium, wherein the at least one measurement signal is optimized on the basis of information obtained from the other measurement signal. As mentioned above, nowhere does Szu disclose, or even suggest, all of the feature of claim 17. As such, it is respectfully submitted that Szu does not disclose, or even suggest, all of the features included in claim 36. Consequently, it is respectfully submitted that Szu does not anticipate, or render unpatentable, claim 36.

XIII. Rejection of Claim 36 Under 35 U.S.C. § 102(e)/103(a)

Claim 36 was rejected under 35 U.S.C. § 102(e), as anticipated by, or in the alternative, under 35 U.S.C. § 103(a) as obvious over Campana et al. It is respectfully submitted that Campana et al. does not anticipate or render unpatentable the present claim for at least the following reasons.

Claim 36, which depends from claim 17, has been amended to recite the step of evaluat[ing] at least one further measurement signal to obtain information about the object enclosed in the medium, wherein the at least one measurement signal is optimized on the basis of information obtained from the other measurement signal. As mentioned above, nowhere does Campana et al. disclose, or even suggest, all of the feature of claim 17. As such, it is respectfully submitted that Campana et al. do not disclose, or even suggest, all of the features included in claim 36. Consequently, it is respectfully submitted that Campana et al. do not anticipate, or render unpatentable, claim 36.

XIV. Conclusion

It is therefore respectfully submitted that the presently pending claims are allowable. All issues raised by the Examiner having been addressed, an early and favorable action on the merits is earnestly solicited.

Respectfully submitted,

/Clifford A. Ulrich/

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